APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/583,310	05/30/2000	John R. Cashman	16663-000120US	5075

20350   7590   11/05/2002

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA   94111-3834

EXAMINER
STEADMAN, DAVID J

ART UNIT	PAPER NUMBER
1652	

DATE MAILED: 11/05/2002   *13*

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	Applicant(s)
Office Action Summary	09/583,310	CASHMAN ET AL.
	Examiner	Art Unit
	David J. Steadman	1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03 September 2002</u> .

2a)☒ This action is **FINAL**.　　2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
　　closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>4,5 and 37-39</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>4</u> is/are allowed.

6)☒ Claim(s) <u>5 and 37-39</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

　　If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All b)☐ Some * c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____ .

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
　　　　　　application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

　　a)☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)	4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5)☐ Notice of Informal Patent Application (PTO-152)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6)☒ Other: *sequence comparison* .

DETAILED ACTION

Application Status

Claims 4, 5, and 37-39 are pending in the application.

Cancellation of claim 3 and amendment to the specification and claims 4, 5, and 37-39 in Paper

No. 12, filed 09/03/02, is acknowledged.

Applicants' arguments presented in Paper No. 12 have been fully considered and are deemed to

be persuasive to overcome some of the rejections previously applied. Rejections and/or objections not

reiterated from previous office actions are hereby withdrawn.

The text of those sections of Title 35 U.S. Code not included in the instant action can be found in

a prior Office action.

Claim Objections

1.   Claim 37 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to

further limit the subject matter of a previous claim. The polynucleotide of SEQ ID NO:5 encodes the

polypeptide sequence of SEQ ID NO:6 (see the nucleotide sequence of SEQ ID NO:5 and the amino acid

sequence of SEQ ID NO:6 in the sequence listing paper copy). As such, the limitation of encoding the

amino acid sequence of SEQ ID NO:6 as recited in claim 6 does not further limit claim 4. Applicant is

required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or

rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 112, Second Paragraph

2.   Claims 5, 38, and 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as the

invention.

3.   Claim 5 is indefinite in the recitation of "DNA sequences according to claim 4". Claim 4 is drawn

to a single DNA sequence and not a plurality of DNA sequences. As such, it is unclear as to the intended

scope of DNA sequences contained in the claimed host cell of claim 5. It is suggested that applicants

clarify the meaning of the claim.

4.   Claim 38 is confusing as the nucleotide sequence of SEQ ID NO:7 is not identical to SEQ ID NO:5

(see attached sequence comparison) and therefore, it is unclear as to how the nucleic acid of claim 4 can

be SEQ ID NO:7. A single nucleic acid cannot have two different nucleotide sequences simultaneously. It

is suggested that applicants clarify the meaning of the claim.

5.   Claim 39 is confusing as the nucleic acid of SEQ ID NO:5 does not encode the polypeptide

sequence of SEQ ID NO:8 (see attached sequence comparison). The polypeptide sequence of SEQ ID

NO:8 is encoded by SEQ ID NO:7. Therefore, it is unclear as to how the nucleic acid of SEQ ID NO:5 can

encode the polypeptide of SEQ ID NO:8. It is suggested that applicants clarify the meaning of the claim.

Claim Rejections - 35 USC § 102

6.   In view of applicants' cancellation of claim 3, the rejection under 35 U.S.C. 102(b) as being

anticipated by Dolphin et al. (IDS reference AA; EMBL Accession Number Z47552, 12 January, 1995) is

withdrawn. While Dolphin et al. teach a nucleic acid that is 99.5 % identical to SEQ ID NO:5 and encodes

an FMOS, Dolphin et al. do not teach or suggest a polynucleotide having the sequence of SEQ ID NO:5 or

SEQ ID NO:7 and the examiner can find no teaching in the prior art of record to alter the sequence of

Dolphin et al. to the sequence of SEQ ID NO:5.

Claim Rejections - 35 USC § 103

7.   In view of applicants' cancellation of claim 3, the rejection of claim 5 under 35 U.S.C. 103(a) as

being unpatentable over Dolphin in view of Sambrook (*Molecular Cloning*, 2nd Edition, 1989, Cold Spring

Harbor Laboratory Press, 17.10-17.27) is withdrawn as Dolphin et al. do not teach or suggest all

limitations of claim 5 as described above.
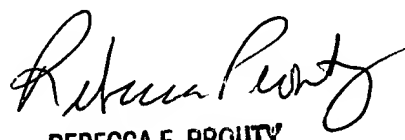
Conclusion

8.   Claim 4 appears to be in a condition for allowance.

9.   Claims 5 and 37-39 would be allowable if rewritten to overcome the objection(s) and/or

rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

        Any inquiry concerning this communication or earlier communications from the examiner should
be directed to David Steadman, whose telephone number is (703) 308-3934. The Examiner can normally
be reached Monday-Thursday from 6:30 am to 5:00 pm. If attempts to reach the Examiner by telephone
are unsuccessful, the Examiner's supervisor, Ponnathapura Achutamurthy, can be reached at (703) 308-
3804. The FAX number for this Group is (703) 308-4242. Any inquiry of a general nature or relating to
the status of this application or proceeding should be directed to the Art Unit receptionist whose
telephone number is (703) 308-0196.

David J. Steadman, Ph.D.
Patent Examiner
Art Unit 1652

REBECCA E. PROUTY
PRIMARY EXAMINER
GROUP 1800

```
Initial Score      =    533  Optimized Score   =    533  Significance = 1.41
Residue Identity   =   100%  Matches           =    532  Mismatches   =    0
Gaps               =      0  Conservative Substitutions                =    0
Translation Frame=        1
```

```
    X         10        20        30        40        50        60        70
    MGKKVAIIGAGVSGLASIRSCLEEGLEPTCFEKSNDIGGLWKFSDHAEEGRASIYKSVFSNSSKEMMCFPDF
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    MGKKVAIIGAGVSGLASIRSCLEEGLEPTCFEKSNDIGGLWKFSDHAEEGRASIYKSVFSNSSKEMMCFPDF
    X         10        20        30        40        50        60        70


              80        90       100       110       120       130       140
    PFPDDFPNFMHNSKIQEYIIAFAKEKNLLKYIQFKTFVSSVNKHPDFATTGQWDVTTERDGKKESAVFDAVM
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    PFPDDFPNFMHNSKIQEYIIAFAKEKNLLKYIQFKTFVSSVNKHPDFATTGQWDVTTERDGKKESAVFDAVM
              80        90       100       110       120       130       140


        150       160       170       180       190       200       210
    VCSGHHVYPNLPKKSFPGLNHFKGKCFHSRDYKEPGVFNGKRVLVVGLGNSGCDIATELSRTAEQVMISSRS
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    VCSGHHVYPNLPKKSFPGLNHFKGKCFHSRDYKEPGVFNGKRVLVVGLGNSGCDIATELSRTAEQVMISSRS
        150       160       170       180       190       200       210


    220       230       240       250       260       270       280
    GSWVMSRVWDNGYPWDMLLVTRFGTFLKNNLPTAISDWLYVKQMNARFKHENYGLMPLNGVLRKEPVFNDEL
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    GSWVMSRVWDNGYPWDMLLVTRFGTFLKNNLPTAISDWLYVKQMNARFKHENYGLMPLNGVLRKEPVFNDEL
    220       230       240       250       260       270       280


   290       300       310       320       330       340       350       360
    PASILCGIVSVKPNVKEFTETSAIFEDGTIFEGIDCVIFATGYSFAYPFLDESIIKSRNNEIILFKGVFPPL
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    PASILCGIVSVKPNVKEFTETSAIFEDGTIFEGIDCVIFATGYSFAYPFLDESIIKSRNNEIILFKGVFPPL
   290       300       310       320       330       340       350       360


         370       380       390       400       410       420       430
    LEKSTIAVIGFVQSLGAAIPTVDLQSRWAAQVIKGTCTLPSMEDMMNDINEKMEKKRKWFGKSETIQTDYIV
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    LEKSTIAVIGFVQSLGAAIPTVDLQSRWAAQVIKGTCTLPSMEDMMNDINEKMEKKRKWFGKSETIQTDYIV
         370       380       390       400       410       420       430


        440       450       460       470       480       490       500
    YMDELSSFIGAKPNIPWLFLTDPKLAMEVYFGPCSPYQFRLVGPGQWPGARNAILTQWDRSLKPMQTRVVGR
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    YMDELSSFIGAKPNIPWLFLTDPKLAMEVYFGPCSPYQFRLVGPGQWPGARNAILTQWDRSLKPMQTRVVGR
        440       450       460       470       480       490       500


       510       520       530 X
    LQKPCFFFHWLKLFAIPILLIAVFLVLTX
    |||||||||||||||||||||||||||||
    LQKPCFFFHWLKLFAIPILLIAVFLVLT
       510       520       530 X
```

SEQ ID NO: 5 ENCODES SEQ ID NO: 6

US-09-583-310-5 (1-1599)
US-09-583-310-7 Sequence 7, Application US/09583310

Initial Score	=	1598	Optimized Score	=	1598	Significance	=	0.00
Residue Identity	=	99%	Matches	=	1598	Mismatches	=	1
Gaps	=	0	Conservative Substitutions			=	0

```
    X        10        20        30        40        50        60        70
    ATGGGGAAGAAAGTGGCCATCATTGGAGCTGGTGTGAGTGGCTTGGCCTCCATCAGGAGCTGTCTGGAAGAG
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    ATGGGGAAGAAAGTGGCCATCATTGGAGCTGGTGTGAGTGGCTTGGCCTCCATCAGGAGCTGTCTGGAAGAG
    X        10        20        30        40        50        60        70

             80        90       100       110       120       130       140
    GGGCTGGAGCCCACCTGCTTTGAGAAGAGCAATGACATTGGGGGCCTGTGGAAATTTTCAGACCATGCAGAG
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    GGGCTGGAGCCCACCTGCTTTGAGAAGAGCAATGACATTGGGGGCCTGTGGAAATTTTCAGACCATGCAGAG
             80        90       100       110       120       130       140

          150       160       170       180       190       200       210
    GAGGGCAGGGCTAGCATTTACAAATCAGTCTTTTCCAACTCTTCCAAAGAGATGATGTGTTTCCCAGACTTC
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    GAGGGCAGGGCTAGCATTTACAAATCAGTCTTTTCCAACTCTTCCAAAGAGATGATGTGTTTCCCAGACTTC
          150       160       170       180       190       200       210

        220       230       240       250       260       270       280
    CCATTTCCCGATGACTTCCCCAACTTTATGCACAACAGCAAGATCCAGGAATATATCATTGCATTTGCCAAA
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    CCATTTCCCGATGACTTCCCCAACTTTATGCACAACAGCAAGATCCAGGAATATATCATTGCATTTGCCAAA
        220       230       240       250       260       270       280

   290       300       310       320       330       340       350       360
    GAAAAGAACCTCCTGAAGTACATACAATTTAAGACATTTGTATCCAGTGTAAATAAACATCCTGATTTTGCA
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    GAAAAGAACCTCCTGAAGTACATACAATTTAAGACATTTGTATCCAGTGTAAATAAACATCCTGATTTTGCA
   290       300       310       320       330       340       350       360

             370       380       390       400       410       420       430
    ACTACTGGCCAGTGGGATGTTACCACTGAAAGGGATGGTAAAAAAGAATCGGCTGTCTTTGATGCTGTAATG
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    ACTACTGGCCAGTGGGATGTTACCACTGAAAGGGATGGTAAAAAAGAATCGGCTGTCTTTGATGCTGTAATG
             370       380       390       400       410       420       430

           440       450       460       470       480       490       500
    GTTTGTTCCGGACATCATGTGTATCCCAACCTACCAAAAAGTCCTTTCCAGGACTAAACCACTTTAAAGGC
    |||||||||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||
    GTTTGTTCCGGACATCATGTGTATCCCAACCTACCAAAAGAGTCCTTTCCAGGACTAAACCACTTTAAAGGC
           440       450       460       470       480       490       500

          510       520       530       540       550       560       570
    AAATGCTTCCACAGCAGGGACTATAAAGAACCAGGTGTATTCAATGGAAAGCGTGTCCTGGTGGTTGGCCTG
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    AAATGCTTCCACAGCAGGGACTATAAAGAACCAGGTGTATTCAATGGAAAGCGTGTCCTGGTGGTTGGCCTG
          510       520       530       540       550       560       570

        580       590       600       610       620       630       640
    GGGAATTCGGGCTGTGATATTGCCACAGAACTCAGCCGCACAGCAGAACAGGTCATGATCAGTTCCAGAAGT
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    GGGAATTCGGGCTGTGATATTGCCACAGAACTCAGCCGCACAGCAGAACAGGTCATGATCAGTTCCAGAAGT
        580       590       600       610       620       630       640

   650       660       670       680       690       700       710       720
    GGCTCCTGGGTGATGAGCCGGGTCTGGGACAATGGTTATCCTTGGGACATGCTGCTCGTCACTCGATTTGGA
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    GGCTCCTGGGTGATGAGCCGGGTCTGGGACAATGGTTATCCTTGGGACATGCTGCTCGTCACTCGATTTGGA
   650       660       670       680       690       700       710       720

             730       740       750       760       770       780       790
    ACCTTCCTCAAGAACAATTTACCGACAGCCATCTCTGACTGGTTGTACGTGAAGCAGATGAATGCAAGATTC
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    ACCTTCCTCAAGAACAATTTACCGACAGCCATCTCTGACTGGTTGTACGTGAAGCAGATGAATGCAAGATTC
```

```
         730       740       750       760       770       780       790

      800       810       820       830       840       850       860
AAGCATGAAAACTATGGCTTGATGCCTTTAAATGGAGTCCTGAGGAAAGAGCCTGTATTTAACGATGAGCTC
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
AAGCATGAAAACTATGGCTTGATGCCTTTAAATGGAGTCCTGAGGAAAGAGCCTGTATTTAACGATGAGCTC
      800       810       820       830       840       850       860

      870       880       890       900       910       920       930
CCAGCAAGCATTCTGTGTGGCATTGTGTCCGTAAAGCCTAACGTGAAGGAATTCACAGAGACCTCGGCCATT
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
CCAGCAAGCATTCTGTGTGGCATTGTGTCCGTAAAGCCTAACGTGAAGGAATTCACAGAGACCTCGGCCATT
      870       880       890       900       910       920       930

      940       950       960       970       980       990      1000
TTTGAGGATGGGACCATATTTGAGGGCATTGACTGTGTAATCTTTGCAACAGGGTATAGTTTTGCCTACCCC
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
TTTGAGGATGGGACCATATTTGAGGGCATTGACTGTGTAATCTTTGCAACAGGGTATAGTTTTGCCTACCCC
      940       950       960       970       980       990      1000

 1010      1020      1030      1040      1050      1060      1070      1080
TTCCTTGATGAGTCTATCATCAAAAGCAGAAACAATGAGATCATTTTATTTAAAGGAGTATTTCCTCCTCTA
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
TTCCTTGATGAGTCTATCATCAAAAGCAGAAACAATGAGATCATTTTATTTAAAGGAGTATTTCCTCCTCTA
 1010      1020      1030      1040      1050      1060      1070      1080

      1090      1100      1110      1120      1130      1140      1150
CTTGAGAAGTCAACCATAGCAGTGATTGGCTTTGTCCAGTCCCTTGGGGCTGCCATTCCCACAGTTGACCTC
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
CTTGAGAAGTCAACCATAGCAGTGATTGGCTTTGTCCAGTCCCTTGGGGCTGCCATTCCCACAGTTGACCTC
      1090      1100      1110      1120      1130      1140      1150

      1160      1170      1180      1190      1200      1210      1220
CAGTCCCGCTGGGCAGCACAAGTAATAAAGGGAACTTGTACTTTGCCTTCTATGGAAGACATGATGAATGAT
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
CAGTCCCGCTGGGCAGCACAAGTAATAAAGGGAACTTGTACTTTGCCTTCTATGGAAGACATGATGAATGAT
      1160      1170      1180      1190      1200      1210      1220

 1230      1240      1250      1260      1270      1280      1290
ATTAATGAGAAAATGGAGAAAAAGCGCAAATGGTTTGGCAAAAGCGAGACCATACAGACAGATTACATTGTT
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
ATTAATGAGAAAATGGAGAAAAAGCGCAAATGGTTTGGCAAAAGCGAGACCATACAGACAGATTACATTGTT
 1230      1240      1250      1260      1270      1280      1290

 1300      1310      1320      1330      1340      1350      1360
TATATGGATGAACTCTCCTCCTTCATTGGGGCAAAGCCCAACATCCCATGGCTGTTTCTCACAGATCCCAAA
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
TATATGGATGAACTCTCCTCCTTCATTGGGGCAAAGCCCAACATCCCATGGCTGTTTCTCACAGATCCCAAA
 1300      1310      1320      1330      1340      1350      1360

 1370      1380      1390      1400      1410      1420      1430      1440
TTGGCCATGGAAGTTTATTTTGGCCCTTGTAGTCCCTACCAGTTTAGGCTGGTGGGCCCAGGGCAGTGGCCA
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
TTGGCCATGGAAGTTTATTTTGGCCCTTGTAGTCCCTACCAGTTTAGGCTGGTGGGCCCAGGGCAGTGGCCA
 1370      1380      1390      1400      1410      1420      1430      1440

      1450      1460      1470      1480      1490      1500      1510
GGAGCCAGAAATGCCATACTGACCCAGTGGGACCGGTCGTTGAAACCCATGCAGACACGAGTGGTCGGGAGA
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
GGAGCCAGAAATGCCATACTGACCCAGTGGGACCGGTCGTTGAAACCCATGCAGACACGAGTGGTCGGGAGA
      1450      1460      1470      1480      1490      1500      1510

      1520      1530      1540      1550      1560      1570      1580
CTTCAGAAGCCTTGCTTCTTTTTCCATTGGCTGAAGCTCTTTGCAATTCCTATTCTGTTAATCGCTGTTTTC
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
CTTCAGAAGCCTTGCTTCTTTTTCCATTGGCTGAAGCTCTTTGCAATTCCTATTCTGTTAATCGCTGTTTTC
      1520      1530      1540      1550      1560      1570      1580

     1590           X
CTTGTGTTGACCTAA
|||||||||||||||
```

CTTGTGTTGACCTAA
1590   X

/

US-09-583-310-5 (1-1599)
  US-09-583-310-8 Sequence 8, Application US/09583310

Initial Score   =   532 Optimized Score =   532 Significance = 0.00
Residue Identity =   99% Matches   =   531 Mismatches   =   1
Gaps   =   0 Conservative Substitutions   =   0
Translation Frame=   1

    X   10   20   30   40   50   60   70
    MGKKVAIIGAGVSGLASIRSCLEEGLEPTCFEKSNDIGGLWKFSDHAEEGRASIYKSVFSNSSKEMMCFPDF
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    MGKKVAIIGAGVSGLASIRSCLEEGLEPTCFEKSNDIGGLWKFSDHAEEGRASIYKSVFSNSSKEMMCFPDF
    X   10   20   30   40   50   60   70

            80   90   100   110   120   130   140
    PFPDDFPNFMHNSKIQEYIIAFAKEKNLLKYIQFKTFVSSVNKHPDFATTGQWDVTTERDGKKESAVFDAVM
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    PFPDDFPNFMHNSKIQEYIIAFAKEKNLLKYIQFKTFVSSVNKHPDFATTGQWDVTTERDGKKESAVFDAVM
            80   90   100   110   120   130   140

         150   160   170   180   190   200   210
    VCSGHHVYPNLPKRSFPGLNHFKGKCFHSRDYKEPGVFNGKRVLVVGLGNSGCDIATELSRTAEQVMISSRS
    |||||||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    VCSGHHVYPNLPKHSFPGLNHFKGKCFHSRDYKEPGVFNGKRVLVVGLGNSGCDIATELSRTAEQVMISSRS
         150   160   170   180   190   200   210

      220   230   240   250   260   270   280
    GSWVMSRVWDNGYPWDMLLVTRFGTFLKNNLPTAISDWLYVKQMNARFKHENYGLMPLNGVLRKEPVFNDEL
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    GSWVMSRVWDNGYPWDMLLVTRFGTFLKNNLPTAISDWLYVKQMNARFKHENYGLMPLNGVLRKEPVFNDEL
      220   230   240   250   260   270   280

    290   300   310   320   330   340   350   360
    PASILCGIVSVKPNVKEFTETSAIFEDGTIFEGIDCVIFATGYSFAYPFLDESIIKSRNNEIILFKGVFPPL
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    PASILCGIVSVKPNVKEFTETSAIFEDGTIFEGIDCVIFATGYSFAYPFLDESIIKSRNNEIILFKGVFPPL
    290   300   310   320   330   340   350   360

            370   380   390   400   410   420   430
    LEKSTIAVIGFVQSLGAAIPTVDLQSRWAAQVIKGTCTLPSMEDMMNDINEKMEKKRKWFGKSETIQTDYIV
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    LEKSTIAVIGFVQSLGAAIPTVDLQSRWAAQVIKGTCTLPSMEDMMNDINEKMEKKRKWFGKSETIQTDYIV
            370   380   390   400   410   420   430

         440   450   460   470   480   490   500
    YMDELSSFIGAKPNIPWLFLTDPKLAMEVYFGPCSPYQFRLVGPGQWPGARNAILTQWDRSLKPMQTRVVGR
    |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
    YMDELSSFIGAKPNIPWLFLTDPKLAMEVYFGPCSPYQFRLVGPGQWPGARNAILTQWDRSLKPMQTRVVGR
         440   450   460   470   480   490   500

       510   520   530 X
    LQKPCFFFHWLKLFAIPILLIAVFLVLTX
    ||||||||||||||||||||||||||||
    LQKPCFFFHWLKLFAIPILLIAVFLVLT
       510   520   530 X

SEQ ID NO: 5 ....?

ENCODES A POLYPEPTIDE THAT IS NOT IDENTICAL

TO SEQ ID NO: 8